Force and torque converter

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Abstract

A force and torque converter provides command signals representative of a translational applied force and an applied torque extending about an axis substantially perpendicular to the axis along which the translational force is applied. The apparatus comprises of body to which the force and torque are applied, first and second connecting means attached to the body, means for biasing the connecting means to a central position and sensor means comprising two sensor devices arranged to detect a displacement force in each of the first and second connecting means respectively and which respond to the applied translation force and also respond to the torque to resolve the torque into a force comprising two components. A very important embodiment of the invention is arranged to operate in three dimensions and to resolve any applied torque into a respective components related to three mutually perpendicular axes. The apparatus can thus interpret operator applied hand signals for controlling an apparatus such as a computer based system.